REMARKS

Favorable reconsideration of the above-identified application is requested in view of the following remarks.

Claims 1-11 are pending in this application, with Claims 1 and 8-10 being independent. Claim 7 is allowed.

Claims 1-3, 5, 6 and 8-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,023,527, hereinafter *Narahara*, in view of U.S. Patent No. 6,388,674, hereinafter *Ito*.

Narahara discloses selection of a color space mapping technique for an output color space. In *Narahara*, a first device gamut is systematically mapped into a second device gamut by using a predetermined set of mapping techniques, and based upon a predetermined index of the generated output color quality, the best mapping technique is selected (abstract). In column 4, lines 61-67, *Narahara* describes that "[i]n order to map the gamuts, the color correction or color mapping units 7-13 determine the best mapping technique by comparing the actual output images generated by a plurality of predetermined mapping techniques. The best mapping technique is stored, and the subsequent mapping processes are performed based upon the best mapping technique." A plurality of predetermined mapping techniques is stored in a memory, and the mapping technique control unit 12 retrieves the particular mapping technique at a given time (column 5, lines 18-22). The signal produced with the particular mapping technique is evaluated by an image characteristics processing unit 8, which generates a characteristic signal which is sent to a mapping evaluation unit 9 (column 5, lines 29-35). The evaluation signal for every mapping technique is accumulated and sent to a mapping technique

decision unit 11, which selects the best or most desirable mapping technique among the predetermined mapping techniques (column 5, lines 40-45).

Ito discloses gamut mapping involving creation of a backward look-up table and a forward look-up table. Through use of the look-up tables, a three-dimensional compression is made to compress the color of areas C and D to an area (A+B), and a two-dimensional compression (shrinking) is made to compress the color of the area (B+C) to the area B, for example.

Turning attention to issues relating to the present application, beginning on page 5 of the present application a conventional technique is described, wherein a conversion parameter used in the color processing is changed, and the conversion parameter is calculated by taking into account the input color space and the output color space. However, that conventional technique causes problems because of the complex processing and long computation required to establish the conversion parameter. That is, it takes a long time because the input color space is used.

To address that issue, an embodiment of the present invention instead obtains data related to a specific color of a first device and data related to a specific color of a second device in a prescribed color space, and estimates a color reproduction range of the first device and a color reproduction range of the second device based on respective data related to the specific color obtained. That is, estimating the color reproduction range based on a specific color, rather than an input color space, takes less time.

Accordingly, Claims 1, 8 and 9 define combinations of features generally directed toward color matching and refer to obtainment of data that is related to a specific color of a first device and data related to a specific color of a second device

in a prescribed color space, and calculation of a conversion parameter by estimating a color production range of the first device and the color reproduction range of the second device based on the respective data related to the specific color that is obtained.

Neither *Narahara* nor *Ito* discloses the claimed subject matter relating to estimation of a color production range based on respective data related to a specific color that is obtained.

With regard to *Narahara*, the Official Action relies on column 5, lines 49-52 and column 6, lines 30-45 of *Narahara* for a disclosure of estimation of a color reproduction range of a first device and a color reproduction range of a second device based on the respective data related to a specific color of the first device and data related to a specific color of the second device. However, that portion of *Narahara* discusses sample area selection, not estimation of a color reproduction range. As described beginning in column 6, line 23 of *Narahara*, a sample area selection unit 20 specifies a sample area that is then processed with the various mapping techniques. The various results are then evaluated to determine the best mapping technique. *Narahara's* uses of a sample area corresponds to *Narahara's* process for determining the best mapping technique based on the outputs of all the different mapping techniques and does not relate to estimation of a color reproduction area based on a specific color.

It is not proposed in the Official Action that *Ito* does, and *Ito* does not, disclose estimation of a color reproduction area based on a specific color. Rather, *Ito* seems to detect the entire color signal with a calorimeter. In column 6, lines 36-39 it is stated that "a device signal is measured using a spectroscopic calorimeter of the like.

More specifically, N^3 (NxNxN) color patches are disposed regularly in the CMY space as shown in FIG. 7A. The color value (CIE/L*a*b*) of each patch is measured by the calorimeter." At least because *Ito* measures each patch by the calorimeter, it is clear that *Ito* does not disclose estimation of a color reproduction range based on a specific color. Also, because *Ito* measures each patch with a calorimeter, it is clear that *Ito* does not disclose estimation of a color reproduction range based on a specific color.

Therefore, Claims 1, 8 and 9 are allowable over *Narahara* in view of *Ito* at least because neither discloses the claimed subject matter relating to estimation of a color reproduction area, or estimation of a color reproduction area based on a specific color. Should the rejections be maintained, it is requested that it be explained how either *Narahara* or *Ito* disclose the claimed subject matter relating to estimation of a color reproduction range, or estimation of a color reproduction range based on a specific color.

Claim 10 defines a combination of features directed toward obtaining a white point and a black point in a first color space produced by a first color image reproduction device, obtaining data of a white point and a black point in a second color space reproduced by a second color image reproduction device, and calculating a conversion parameter by estimating a color reproduction range of the first device and the color reproduction range of the second device based on the respective data related to the specific color that is obtained.

The Official Action relies on *Narahara*, and specifically *Narahara's* Figs. 8 and 9, to disclose the claimed subject matter relating to a white point and a black point. However, Figs. 8 and 9 showing a white point and a black point are not related to

estimation of a color reproduction range based on data obtained of the white and black point. That is, as described beginning in column 7, line 44, Fig. 8 refers to a mapping process and shows the purity or chroma of a color display unit being mapped onto the gamut of an inkjet printer. Beginning in column 7, line 56, it is described that Fig. 9 shows an example of controlled adjustment including a minimal color difference adjustment, where the direction of the adjustment is made substantially perpendicular to the inkjet gamut boundary. Clearly, the portions of *Narahara* corresponding to Figs. 8 and 9 do not disclose estimation of a color reproduction range based on obtained data of a white and black point.

It was not proposed in the Official Action, and *Ito* does not, disclose estimation of a color reproduction range based on obtained data of a white and black point either.

Therefore, Claim 10 is allowable because neither *Narahara* nor *Ito* disclose at least the claimed subject matter relating to estimation of a color reproduction range based on obtained data of a white and black point.

Claims 1 and 8-10 are also allowable because it would not have been obvious to modify *Narahara* to include calculation of a conversion parameter, as defined by Claims 1 and 8-10. As noted earlier, the basic operation of *Narahara* calls for a number of different mapping techniques to be tested, and the best mapping technique to be selected based on the results. As described in the Background of the Invention Section at column 2, lines 48-51, "output colors should be mapped in a systematic fashion and the generated output colors should be evaluated in an objective fashion with respect to original input colors." Further, it is stated in column 4, lines 61-67 that "[i]n order to map the gamuts, the color correction or color

mapping units 7-13 determine the best mapping technique by comparing the actual output images generated by a plurality of predetermined mapping techniques. The best mapping technique is stored, and the subsequent mapping processes are performed based upon the best mapping technique." Modifying *Narahara* to replace the process of comparing the outputs of a plurality of mapping techniques with the claimed calculation of a conversion parameter based on estimation of color reproduction range based on specific color would be a drastic deviation from the intended operation of *Narahara*. It is reminded that when evaluating the obviousness of a proposed modification, that "[i]f the proposed modification or combination of the prior art would change the principal of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." MPEP § 2143.02. Clearly, in the case at hand, modifying *Narahara* as proposed in the Official Action to embody the claimed features directed toward calculation of a conversion parameter would entirely change the principal of operation and cannot be obvious.

Further, the reasons set forth in the Official Action in support of the proposed combination of *Narahara* with *Ito* are inadequate to establish a *prima facie* case of obviousness. That is, it is stated in the Official Action only that it would have been obvious to combine *Narahara* with *Ito* because 1) they are from the same field of endeavor and 2) because *Ito's* system of color conversion/gamut mapping permit maintaining/keeping the color characteristics such as contrast, third dimension and vividness. However, there is no statement in the Official Action identifying that *Narahara's* system is not capable of maintaining/keeping the color characteristics such as contrast, third dimension and vividness. Also, assuming arguendo that such

is the case, there is no statement that applying *Ito's* system to *Narahara* would be advantageous over *Narahara's* system. It is reminded that "the expectation of some advantage is the strongest rationale for combining references." MPEP 2144. Here, it has not been proposed what advantages would be gained by combining *Narahara* with *Ito*.

Therefore, not only would the proposed combination of *Narahara* and *Ito* not be obvious, but the reasons for such combination set forth in the Official Action are drastically inadequate to establish a *prima facie* case of obviousness under the current legal standards. See MPEP chapter 2100.

Claims 2-7 and 11 are allowable at least by virtue of their dependence from allowable independent claims, and also because they define features that distinguish over the cited disclosures.

Should any questions arise in connection with this application, or should the Examiner feel that a teleconference with the undersigned would be helpful in resolving any remaining issues pertaining to this application, the undersigned requests that he be contacted at the number indicated below.

Respectfully submitted,

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